

Work Order ID 162497

Tuesday, June 06, 2017 4:57:34 PM

162497

Page 1

Item ID: D2600-3-130 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Extrusion Round 3" 350
 Start Date: 6/7/2017 Start Qty: 45.00 *45* 60
 Required Date: 6/23/2017 Req'd Qty: 45.00 *45* JUN 14 2017
 Reference: Cust Item ID: Customer:

Approvals: Process Plan: DAS 21 Date: JUN 08 2017 Tooling: Date: Run Start *NR1*
 QC: 9-89 Date: SPC (Y/N): Date: Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2600	E								

100 0.00

100

Purchasing

Purchasing

PURCHASING

Memo

Issue P/O: 36700
 a) Extrude as per Dwg D2600 (130" long)

b) Material: 6061-T6

c) Material certification is required.

***EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE
 SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH
 AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS,
 OR DENTS.***

MUST BE WELL PACKAGE, IF NOT IT WILL BE REFUSE

110 0.00

110

Packaging

Packaging

Receive & Inspect for Damage & Mat'l Certs

Memo

Ensure material certification is attached

60 JUN 14 2017
 Box SP7-8-2
 Box.

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	

Root Cause			FAULT CATEGORY							
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence
Past Expiry Date	☐	Manufacturing Process	☐	OTHER :						
Misidentified	☐	Past Due	☐							

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Tuesday, June 06, 2017 4:57:34 PM

162497

Page 2

Item ID: D2600-3-130 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Extrusion Round 3" 350
Start Date: 6/7/2017 Start Qty: 45.00 ***45*** Cust Item ID:
Required Date: 6/23/2017 Req'd Qty: 45.00 ***45*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC18 In-Coming Inspection Material	0.00							
120									
QC	Memo	0.00							DAS 9 9-89
Quality Control	Check Pull test per Dwg D2600 for compliance page attached Check hardness with Webster tester								
130	Identify as per dwg & Stock Location: <u>LG002</u>	0.00							
130									
Packaging	Memo	0.45							
Packaging	LOCATION : LG002								
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	4.50							
Quality Control									

U 1708129

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																																																										
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																																																									
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐																																																																

Picklist Print

Monday, June 05, 2017 4:53:59 PM

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Work Order ID: 162497

162497

Parent Item: D2600-3-130

D2600-3-130

Parent Item Name: Extrusion Round 3" 350

Start Date: 6/7/2017

Required Date: 6/23/2017

Start Qty: 45.00

Required Qty: 45.00

Comments: IPP REV:A 14.01.14 NEW ISSUE DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D2600-3-130P

Purchased

No

100

Each

0.0000

1

45

D2600-3-130P

**

Extrusion Round 3" 350

SPECIFICATION CONTROL DRAWING

D2600-X-XXX EXTRUSION

NOTES:

1) MATERIAL: 6061-T6 ALUMINUM PER QQ-A-200/8 OR AMS-QQ-A-200/8 OR ASTM B221

MINIMUM TENSILE YIELD STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 40 KSI
MINIMUM ELONGATION = 8%

A SAMPLE FROM EACH BATCH WILL BE PULL TESTED TO ASTM STANDARD B221 BY AN APPROVED TESTING FACILITY TO ENSURE THAT THE BATCH MEETS THE ABOVE MINIMUM MECHANICAL PROPERTIES

- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N & B/N PER DART QSI 044 6.1 (FINE POINT PERMANENT INK MARKER)
- 7) WEIGHT: D2600-1 = 0.078 lb/in, D2600-3 = 0.130 lb/in, D2600-5 = 0.045 lb/in, D2600-7 = 0.091 lb/in
- 8) NO TOOLING MARKS
- 9) FOR D2600-1, PART NUMBER IS D2600-1-XXX WHERE XXX IS CUT LENGTH (EX. D2600-1-160 IS 160" LONG).
D2600-1 EXTRUSION MANUFACTURED FROM:
- CARADON INDALEX DIE # MH-18870
- SIGNATURE ALUMINUM (BON-L) DIE # 897121
- 10) FOR D2600-3, PART NUMBER IS D2600-3-XXX WHERE XXX IS CUT LENGTH (EX. D2600-3-120 IS 120" LONG).
D2600-3 EXTRUSION MANUFACTURED FROM:
- CARADON INDALEX DIE # MH-18859
- SIGNATURE ALUMINUM (BON-L) DIE # 897122
- 11) FOR D2600-5, PART NUMBER IS D2600-5-XXX WHERE XXX IS CUT LENGTH (EX. D2600-5-108 IS 108" LONG).
D2600-5 EXTRUSION MANUFACTURED FROM:
- CARADON INDALEX DIE # MS-18871
- 12) FOR D2600-7, PART NUMBER IS D2600-7-XXX WHERE XXX IS CUT LENGTH (EX. D2600-7-125 IS 125" LONG).
D2600-7 EXTRUSION MANUFACTURED FROM:
- CARADON INDALEX DIE # MS-18872

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. 162497 MJS
1706-08

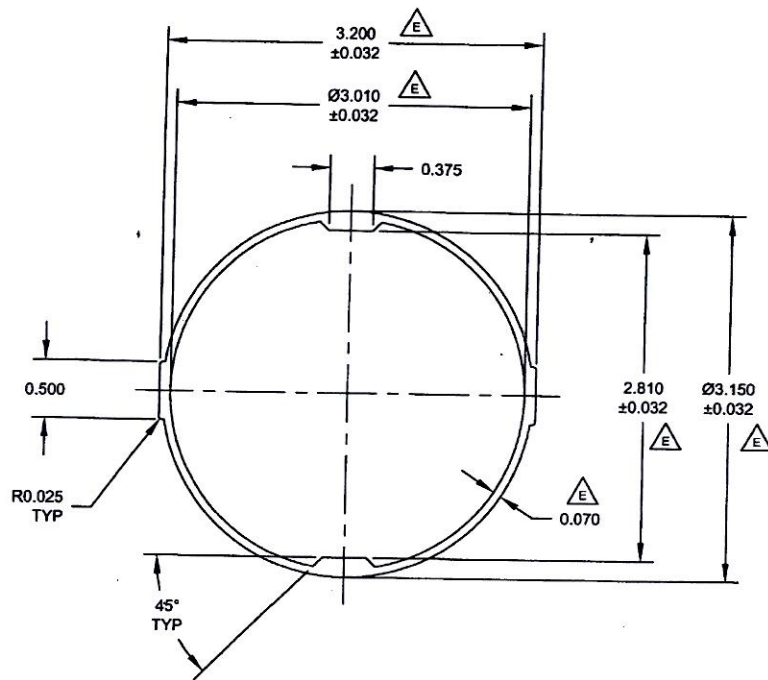
RELEASED
2012-01-11

E	REFORMAT DWG; ALL DIMS & TOL. UPDATE TO MATCH MFG DIE DWGS; ADD ASTM B221 SPEC (D8-1)	CP	11.10.18
D	INCREASE MIN. UTS TO 40 KSI	DS	98.08.20
C	ADD D2600-3, UPDATE D2600-1 WIDTH, ADD DIE NO.	DS	98.04.16
B	CHANGE MATERIAL SPEC.	DS	97.09.09
A	NEW ISSUE	DS	97.01.21
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	11.10.18		

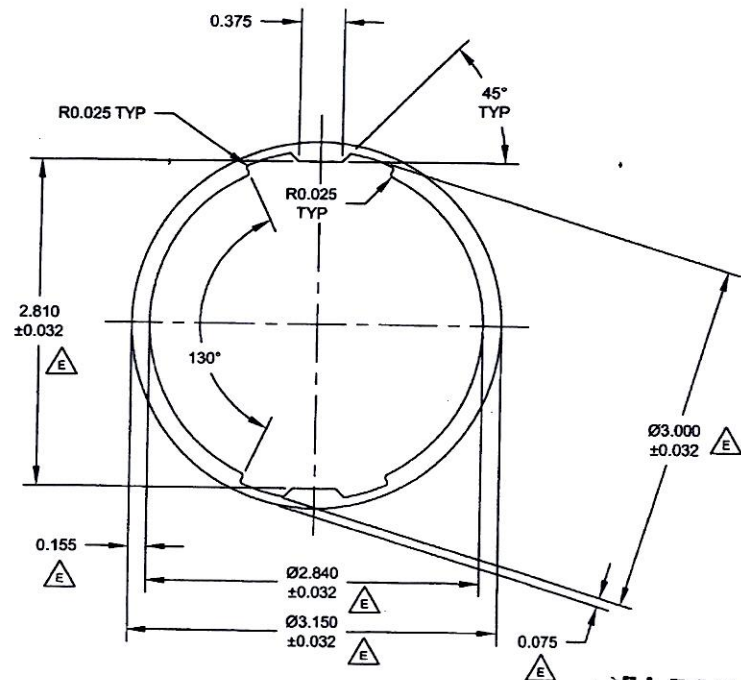
DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. D2600
TITLE EXTRUSION
REV. E
SHEET 1 OF 3
SCALE
NTS

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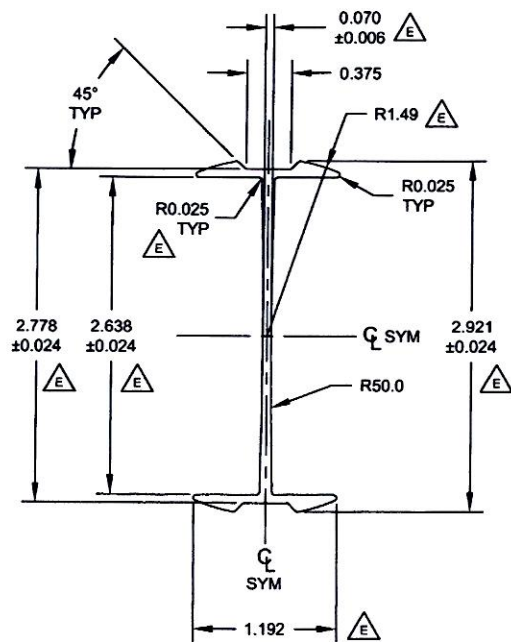
D2600-1 EXTRUSION



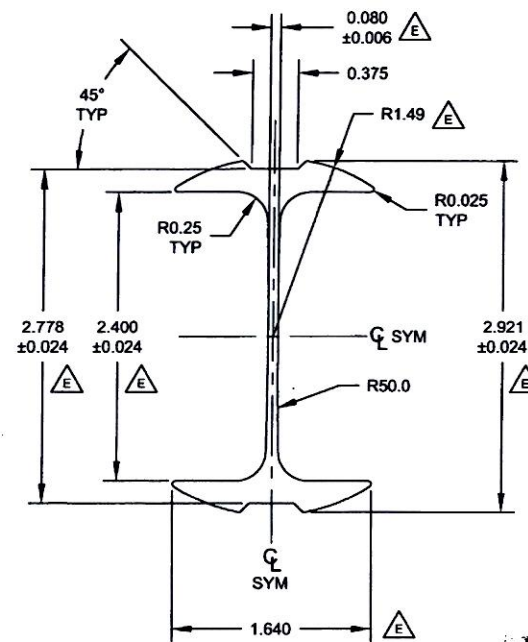
D2600-3 EXTRUSION

RELEASED
2012-01-10

DESIGN	4	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	gp		
CHECKED	ASS	DRAWING NO.	REV. E
MFG. APPR.	E	D2600	SHEET 2 OF 3
APPROVED	WHD	TITLE	SCALE
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D2600-5 EXTRUSION



D2600-7 EXTRUSION

RELEASED
11 2012-01-11

DESIGN		DART AEROSPACE LTD	
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CHECKED	ASS	DRAWING NO.	REV. E
MFG. APPR.	BE	D2600	SHEET 3 OF 3
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Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO36700

Purchase Order Date 6/14/2017

PO Print Date 6/14/2017

Page Number 1 of 3

Order From :

VC-BON001

Ship To : DART AEROSPACE LTD

SIGNATURE ALUMINUM CANADA INC.
C/O/ T10322C
P.O. BOX 4488, STN A
TORONTO, ON M5W 4H1
CA

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

JUN 15 2017

Contact Name

Vendor Phone

905-427-6550

Ship To Contact

Ship To Phone

Ship Via:

Yours ppd

Ship Acct:

Buyer

Customer POID

Customer Tax #

Terms

Currency

FOB

Chantal Lavoie

10127-2607

Net 30

CAD

Destination-Collect

Line Nbr	Reference Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	D2600-3-130P	Extrusion Round 3" 350	7/24/2017 Yes 7/24/2017	FN	60.00 Each	\$39.31	\$2,358.6
EXTRUDE AS PER DWG D2600-3-130 REV. E B162497 DIE # DDA-897122 LENGHT 130" DAS 9 9-89 EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF TUBE MATERIAL MUST BE SMOOTH AND FREE FROM DEFECT SCRATCHES,NICKS,DENT							
Line Total:							\$2,358.6
2	D2600-7-140P	Ext. "I Beam" Thick	7/24/2017 Yes 7/24/2017		94.00 Each	\$25.96	\$2,439.8
EXTRUDE AS PER DWG D2600-7-140 REV. E DIE # DAA-11 B162496 LENGHT 140" EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF TUBE MATERIAL MUST BE SMOOTH AND FREE FROM DEFECT SCRATCHES,NICKS,DENT							

PO Instructions: QUOTE NO. 06092017-012B

Note:

6/14/2017



ACCT# 46024

1850 Cléments Road, Pickering Ontario, Canada L1W 3R8 INVOICING AND COMPANY LOCATION

Phone: (866) 587-5780 Fax: (905) 427-2207

Visit us at www.signaturealuminum.comSIGNATURE ALUMINUM CANADA
1850 CLEMENTS ROAD
PICKERING ON L1W 3R8

PACKING LIST

PACKING LIST DATE / DATE DU
07-31-17PACKING LIST NUMBER / N° DE
033004SALES ORDER NUMBER / N° DE COM
128490

SHIP TO / EXPÉDIÉ À

DART AEROSPACE LTD.
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7
CANADA

PHONE: 613-632-5200

SOLD TO / VENDUE À

DART AEROSPACE LTD.
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7
CANADA

PHONE: 613-632-5200

TERMS / FREIGHT

PP

REFER TO
THESE NUMBERS ON
ALL CORRESPONDANCEREFEREZ-VOUS A CES
NUMEROS POUR TOUTE
CORRESPONDANCE

CUSTOMER ID / ID DU CLIENT 46024		ORDER DATE / DE LA COM 06/16/17		CUSTOMER PO NUMBER / CLIENT PO Nombre PO36700		JOB / FICHIER		FIELD SALES REP / REP REGIONAL DES VENTES G.ATTENBOROU		SALES REP / REP. DES VENTES R. BLAIS	
				BILL OF LADING NUMBER / NO. DE CONNAISSEMENT 033004		CARRIER / TRANSPORTEUR MCGILLION				CUST SERVICE REP / REP. SERVICE CLIENTELE S1S	
ITEM NO. / NUMÉRO	ORIGINAL ORDER QUANTITY / Quantité d'ordre ORIGINAL	UNIT / UNITÉ	PREVIOUS SHIPPED QUANTITY / PRÉCÉDENT Quantité livrée	MFG. PART NUMBER / MFG. PARTIE NUMÉRO	ALLOY & TEMPER / ALLIAGE & TEMPER	FINISH DESCRIPTION / DESCRIPTION DE FINITION	NBR OF PKGS / NBR DE PKGS	GROSS LBS / LIVRES BRUT	NET QUANTITY / QUANTITÉ NETTE	UNIT / UNITÉ	QUANTITY DUE / Quantité en raison
001	1,039	LB		DAA-897122-2	6061 T6		2	1,129	1,089	LB	
	471	KG		D2600-3-130P	130.0000 IN			512	494	KG	
Y	60	PC			Cut(+): 0.0000 Cut(-): 0.0000	Min: -10 % Max: 10 %			66	PC	
						883846 / 378989	1	780	758		46 PC
						883846 / 378990	1	348	331		20 PC

SP A 8-2

Transportation/Traffic damages and/or shortage claims are to be noted on the delivery copy of sellers shipping packing lists and signed and dated below by customers authorized representatives.
No return materials will be accepted for credit without permission. The articles and/or services covered by this shipping packing list were produced in accordance with the fair trade standards set of 1999 as amended. Orders accepted subject to the terms and conditions stated on the reverse side.

CUSTOMER ACKNOWLEDGEMENT OF GOODS DELIVERED AND CONDITION

Page 1 of 2

DATE OF DELIVERY

DRIVER

		Continued	
TOTALS			



CERTIFICATE OF COMPLIANCE

SIGNATURE ALUMINUM CANADA

1850 CLEMENTS RD
PICKERING, ON L1W 3R8

Cert Date	Cert No.	Sales Order	Page
07/28/2017	5440596	128490	1
Cust PO	B/L No	Lot	Date
PO36700	033004	883846	07/31/17

Sold To	Ship To
46024 DART AEROSPACE LTD. 1270 ABERDEEN ST. HAWKESBURY, ON K6A 1K7 CANADA	46024 DART AEROSPACE LTD. 1270 ABERDEEN ST. HAWKESBURY, ON K6A 1K7 CANADA

Item No	Part No	Item Description	Cust Part
001	DAA-897122-2	130" Mill 6061 T6	D2600-3-130P
Gross Weight	1,129 LBS		
Net Qty	1,089 LBS	66 PCS	2 PKGS
Specification	Die Desc		
AMS-QQ-A-200/8 & ASTM B221-08			

Mechanical Tests:

Tensile	Yield			
MPA / KSI	MPA / KSI	% Elongation	Conductivity	HRE
306.2 / 44.4	267.6 / 38.8	11.2	N/A	93

Chemical Analysis:

Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	V	Zr
0.61	0.24	0.21	0.05	0.87	0.07	0.07	0.01	0.01	0.00

This Material is Made in Canada

This Material is RoHS Compliant

This will certify that the material described herein has been inspected and tested in accordance with Signature Aluminum Canada's standard sampling and testing procedures or in accordance with the requirements of any specification forming a part of the material description to the extent indicated herein. Data of chemical composition for the material and test results from samples representative of the material are set forth above hereof or in any attachments hereto. This information shows that the material meets the applicable requirements. Inspection and test records are maintained on file. This certificate shall be deemed apart of and subject to the terms and conditions of warranty set forth on the reverse side of our order acknowledgement form. No other warranties are applicable.

S. Mazzotta
Director of Quality
Signature Aluminum Canada Inc

ISO 9001/TS16949 Registered Company

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